

CALIFORNIA COASTAL COMMISSION

CENTRAL COAST DISTRICT OFFICE
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060
(831) 427-4863

W14a

Filed: 01/17/2003
Staff: SC
Staff report prepared: 07/17/2003
Hearing date: 08/06/2003
Hearing item number: W14a

COASTAL DEVELOPMENT PERMIT AMENDMENT

Application number3-00-034-A2, Santa Cruz Port District Dredging Amendment

Applicant.....Santa Cruz Port District; Attn: Brian Foss, Port District Director

Project locationSanta Cruz Small Craft Harbor, 135 5th Avenue, Santa Cruz (Santa Cruz County)

Project descriptionModify original permit to 1) Reinterpret annual testing requirement for Santa Cruz Harbor entrance sediments to coincide with U.S. Army Corps of Engineers and Environmental Protection Agency guidance; 2) Allow fine-grain, clean inner harbor sediment (between 50% and 80% sand content) to be disposed of into the nearshore environment east of the harbor (3,000 cubic yards/year maximum).

Agency approvalsFor nearshore dredge disposal pipeline: Monterey Bay National Marine Sanctuary (MBNMS) approval dated September 30, 1997; U.S. Army Corps of Engineers (ACOE) approval (CESPN-CP-RS: 1145b) dated September 25, 1997; California State Lands Lease PRC 2836.9. For maintenance dredge operation: ACOE Section 404 Clean Water Act application No. 25179S, State Lands Lease PRC 2836.9, State Parks Temporary Use Permit.

File documents.....Monitoring of Dredged Upper Santa Cruz Harbor Mixed Sand and Mud Sediment Released into the Nearshore Area of Santa Cruz, California (Steve G. Watt & H.G. Greene, Moss Landing Marine Laboratories), dated December 19, 2002; Santa Cruz Harbor Dredge Demonstration Project – Turbidity and Dye Studies (Kinnetic Laboratories), dated April 10, 2001; Operations Manual, Santa Cruz Harbor Dredging System, dated July 1995; A Sediment Trend Analysis (STA) of Santa Cruz Harbor and its Vicinity: Implications to Dredge Disposal Operations, dated February 2000; U.S. Army Corps of Engineers, Santa Cruz and Vicinity Schoaling Study, January 1994; Coastal Permit files: 3-81-140, 3-82-217, 3-84-13, 3-84-147, 3-94-13, 3-95-10, 3-95-067, 3-95-067-A2, 3-00-034, 3-00-034-A1; Consistency Determinations: CD-12-81, CD-46-83, CD-59-84, CD-31-85; and California Coastal Act.

Staff recommendation ...Approval with Conditions



California Coastal Commission
August 2003 Meeting in Huntington Beach

Staff: S. Craig Approved by:

C:\Documents and Settings\mfrum\Local Settings\Temporary Internet Files\OLK150\3-00-034-A2 (Santa Cruz Port District Dredging Amendment) 7.17.03.doc

Procedural Note

Coastal Development Permit Amendments

The Commission's regulations provide for referral of permit amendment requests to the Commission if:

1. The Executive Director determines that the proposed amendment is a material change,
2. Objection is made to the Executive Director's determination of immateriality, or
3. The proposed amendment affects conditions required for the purpose of protecting a coastal resource or coastal access.

If the applicant or objector so requests, the Commission shall make an independent determination as to whether the proposed amendment is material (14 California Administrative Code Section 13166).

The subject application is being forwarded to the Commission because the Executive Director has determined that the proposed amendment is a material change and affects conditions required for the purposes of protecting coastal resources or coastal access.

Summary: The Applicant is requesting an amendment to coastal development permit 3-00-034, which covers a five-year period and allows for the dredging of 10,000 cubic yards of sediment per year from the inner harbor and 350,000 cubic yards of sediment per year from the entrance channel at the Santa Cruz Harbor. CDP 3-00-034 requires that dredge materials being placed into the nearshore environment undergo chemical testing and consist of over 80% sand. The priority disposal site for dredge material is the nearshore surfline at Harbor Beach and Twin Lakes State Beach, as this material is a source of beach replenishment. Use of the offshore pipeline (approximately 70 yards offshore) is permitted when hydrogen sulfide odor is present in quantities that would affect beach users or adjacent residents, when onshore winds exist, or when weather conditions conflict with beach users.

The Santa Cruz Port District wishes to amend CDP 3-00-034 to allow for the disposal of a maximum of 3,000 cubic yards/year of chemically tested, fine-grain inner harbor sediment (between 50% and 80% sand content) into the nearshore area east of the harbor. Disposal would be by means of the offshore pipeline during the late fall and winter months. In addition, the Applicant wishes to amend permit 3-00-034 to remove the requirement for annual physical and chemical testing of Harbor entrance sediments (always greater than 90% sand) to coincide with U.S. Army Corps of Engineers (ACOE) and Environmental Protection Agency (EPA) guidance.

The main issues regarding this project are as follows:

Beach Replenishment: The sediments proposed for dredging will consist of between 50% and 80% sand. Typically beach nourishment material is at least 80% sand. The Port District contends that the 80% sand guideline is too restrictive. According to the applicant, the benefits of this amendment include beach replenishment (at least 1,500 cubic yards of the dredge material will be composed of



sand), and transport of silt and clay to the ocean during high-wave energy periods of the late fall and winter months. The results of a monitoring program performed during a demonstration-dredging event in the winter of 2001, in which 3,000 cubic yards of fine-grain material were disposed of into the nearshore environment, determined that there were no significant impacts to beaches or nearshore marine benthic habitats. The Environmental Protection Agency (EPA) states that there is flexibility within the Clean Water Guidelines that allows for discharge of finer material for beach nourishment purposes, provided that site-specific information is available to determine any beach nourishment benefits or significant adverse impacts. The amendment is conditioned to require development and implementation of a monitoring program to include sediment sampling and analysis of grain size.

Biological Resources

Sediment deposition can smother invertebrates and prevent algal spore settlement. However, the results from a previous demonstration dredging study, in which fine-grain material was discharged into the nearshore environment, showed no significant impacts to the nearshore benthic environment. Dredging causes the disturbance, transport, and destruction of benthic organisms, but the disturbance caused by the amended project would be limited and temporary. Also, the use of a hydraulic dredge will minimize disturbance and re-suspension of sediments at the dredge site. Several endangered or threatened species are found in the Harbor area or just offshore. The underwater disposal of dredge material is not expected to affect the state and federally listed California brown pelican. The amendment is conditioned to prohibit dredging in the inner harbor during March and April to protect steelhead. The endangered tidewater goby no longer inhabits the watershed area adjacent to the Harbor.

Water Quality: Dredging and disposal activities increase turbidity in the water column. Dissolved oxygen levels in the water column decrease due to increased turbidity. However, water quality conditions should return to baseline conditions shortly after each dredging and disposal episode. In addition, the inner harbor dredge material must be subjected to physical and chemical testing. This dredge material must pass all tests and be qualified for unconfined aquatic disposal. Entrance channel sandy dredge material shall be tested periodically according to ACOE and EPA standards.

Public Access/Recreation: The proposed dredging project will strongly benefit public access and recreation by restoring and maintaining adequate water depths in the Harbor's navigation channels and berthing areas. In addition, at least 1,500 cubic yards of the dredge material will be composed of sand, which will be available for beach replenishment. Furthermore, this approval is conditioned to require disposal of fine-grained dredge material during high-wave energy months and to require submission of a sediment monitoring program to determine if there are any adverse effects to adjacent beaches.

As conditioned, Staff recommends approval.



Staff Report Contents

I. Staff Recommendation on Amendment.....	4
II. Conditions of Approval	5
A. Standard Conditions.....	5
B. Special Conditions	5
III. Recommended Findings and Declarations.....	7
A. Project Background.....	7
1. Project Location	7
2. Permit History	7
3. Proposed Amendment.....	8
B. Coastal Development Permit Determination	9
1. Land Use Priorities	9
2. Public Access.....	10
3. Marine Resources & Environmentally Sensitive Habitats	12
a. Beach Replenishment.....	12
b. Biological Resources	15
4. Water Quality.....	17
IV. California Environmental Quality Act (CEQA)	18
V. Exhibits	
Exhibit 1: Location Map	
Exhibit 2: Aerial Photo of Harbor	
Exhibit 3: Disposal Pipelines	
Exhibit 4: Dye Tracking Study Report	
Exhibit 5: Letter from Professor Gary Greene	
Exhibit 6: CDP 3-00-034 Special Conditions	

I. Staff Recommendation on Amendment

The staff recommends that the Commission, after public hearing, **approve** the proposed amendment subject to the standard and special conditions below. Staff recommends a **YES** vote on the following motion:

***Motion.** I move that the Commission approve the proposed amendment to Coastal Development Permit Number 3-00-034-A2 pursuant to the staff recommendation.*

***Staff Recommendation of Approval.** Staff recommends a **YES** vote. Passage of this motion will result in approval of the amendment as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.*

***Resolution to Approve a Coastal Development Permit Amendment.** The Commission hereby*



approves the coastal development permit amendment on the grounds that the development as amended and subject to conditions, will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit amendment complies with the California Environmental Quality Act because either: (1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the amended development on the environment; or (2) there are no feasible mitigation measures or alternatives that would substantially lessen any significant adverse effects of the amended development on the environment.

II. Conditions of Approval

A. Standard Conditions

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the Permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions.

B. Special Conditions

All Special Conditions of coastal development permit 3-00-034 (attached as Exhibit 6) remain in full force and effect, except for Special Conditions B(1)(b), B(1)(e), and B(8)(b), which are revised as follows:

- B(1)(b).** Dredge materials shall be over 80% sand (except as noted below) and disposed of through the permanent pipeline approved by Coastal Permit 3-86-175 or the offshore disposal pipeline



approved by this permit (3-00-034). A maximum of 3,000 cubic yards of clean dredge material from the inner harbor with a sand content of at least 50% but less than 80% may be disposed of via the offshore disposal pipeline between November 1st and February 28th.

B(1)(e). The priority site for dredge material disposal location is into the surfline at Harbor Beach and Twin Lakes State Beach. Use of the offshore disposal pipeline shall occur when hydrogen sulfide odor is present in quantities that would affect beach users or adjacent residents, when onshore winds exist, when beach or weather conditions conflict with beach users, or for up to 3,000 cubic yards of chemically tested, clean, inner harbor dredge material with a sand content of at least 50% but less than 80%.

B(8). PRIOR TO COMMENCEMENT OF INDIVIDUAL DREDGING EPISODES, the Santa Cruz Port District shall submit to the Executive Director for review and approval, **(b)** Dredge material analysis for entrance channel sediments shall be done consistent with Army Corps of Engineers and U.S. Environmental Protection Agency requirements. Physical and chemical dredge material analysis shall be done for all dredge material located in the inner harbor. The Port District shall also submit Regional Water Quality Control Board water quality certification or waiver for disposal of materials.

13. New Conditions Pursuant to CDP 3-00-034-A2

a. PRIOR TO ISSUANCE OF THE AMENDED COASTAL DEVELOPMENT PERMIT, the Applicant shall submit to the Executive Director for review and approval a monitoring program that is designed to determine if sedimentary changes occur along the beaches and nearshore benthic habitats in the vicinity of the Santa Cruz Harbor due to retention of fine-grained material. The monitoring program shall include collection of sediment samples prior to, during, and after the disposal of inner harbor dredge material that consists of at least 50% sand but not more than 80% sand. A monitoring report shall be prepared, using the data collected during the monitoring program.

b. WITHIN 30 DAYS OF RECEIPT OF THE FINAL MONITORING REPORT, the permittee shall submit a copy of the final monitoring report to the Executive Director for review.

14. The Port District shall keep a record of all written comments received related to its dredging and disposal activities. This comment record shall be available for review by Commission staff upon request, and shall be submitted with future coastal development permit applications to renew dredging authorization.



III. Recommended Findings and Declarations

The Commission finds and declares as follows:

A. Project Background

1. Project Location

The Santa Cruz Small Craft Harbor is located in the City of Santa Cruz, at the northern tip of Monterey Bay, and between Twin Lakes and Seabright State Beaches (Exhibit 1). The Harbor is a commercial fishing/small craft harbor with berthing facilities for approximately 920 boats. The proposed dredging site is located in the inner harbor, which begins north of the fuel dock and extends to the lower reaches of the Arana Gulch watershed (Exhibit 2). Arana Creek flows through a culvert at the northern end of the Harbor and is discharged into the north inner harbor waters. The northern extent of the inner harbor receives sediment primarily from the Arana Gulch watershed, while the entrance channel and southern extent of the inner harbor receive sediment primarily from littoral drift at the Harbor mouth. On average, the Harbor receives approximately 1,000 to 15,000 cubic yards of sediment per year from the Arana Gulch watershed. Much of this sediment collects at the inner harbor and at times has rendered this area impassable to boats.

The proposed disposal site for the dredge materials is located approximately 70 yards offshore of Twin Lakes State Beach, which is located east of the harbor entrance channel (Exhibit 3). Disposal of dredge material has historically occurred offshore of Twin Lakes State Beach and has contributed to a beach replenishment program for downcoast beaches.

2. Permit History

In October 2000, the Coastal Commission approved, with conditions, Coastal Development Permit 3-00-034, which authorized the dredging and disposal of harbor sediments from the Santa Cruz Small Craft Harbor for five years. CDP 3-00-034 allows for the dredging of 10,000 cubic yards of sediment per year from the inner harbor and 350,000 cubic yards of sediment per year from the entrance channel, in coordination with Army Corps of Engineers (ACOE) permit 25179S. Any dredge materials disposed through the nearshore pipeline approved by Coastal Permit 3-86-175 or the offshore pipeline approved by permit 3-00-034 must consist of over 80% sand. The permit requires that dredge materials be tested using the most current ACOE and Environmental Protection Agency (EPA) testing methods and/or procedures, with all dredge materials meeting Regional Water Quality Control Board and EPA Clean Water Act beach disposal standards. The priority site for disposal of dredge material is into the nearshore surfline at Harbor Beach and Twin Lakes State Beach, as this material is a source of beach replenishment. Use of the offshore pipeline is permitted when hydrogen sulfide odor is present in quantities that would affect beach users or adjacent residents, when onshore winds exist, or when weather conditions conflict with beach users.



In 2001 the Santa Cruz Port District proposed a demonstration project is to determine if clean, fine-grained harbor sediments could be disposed into the nearshore area in a manner beneficial to downcoast beaches and without harm to coastal resources. In 2001, the Coastal Commission approved CDP amendment 3-00-034-A1 to allow for the dredging of 3,000 cubic yards of sediment from the inner harbor, with disposal by means of the offshore pipeline. This sediment averaged 42% sand and 58% silts and clays and was disposed of through the offshore pipeline over a three-day period during March 2001. A monitoring report was designed and implemented under the direction of Dr. Gary Greene, professor of geological oceanography at Moss Landing Marine Laboratories. The monitoring program included collection of sediment samples (beach samples and subtidal samples) and water samples before, during, and after the demonstration event. In addition, geophysical surveys were undertaken to describe and quantify sedimentary changes that may have occurred during the monitoring period and impacts to benthic habitats. The report concluded that the dredged inner harbor sediment released into the nearshore environment during the experimental dredging event did not significantly change, alter, or impact the beaches or nearshore marine benthic habitats in the study area.

At the Commission hearing in 2001 regarding amendment 3-00-034-A1, a California Department of Fish & Game representative suggested adding a fluorescent dye to the dredge material as an additional monitoring method to track the dispersal of the fine-grained material. The Commission added this requirement as part of its approval. The results of the dye tracking study (see Exhibit 4) show that dye was detected at most nearshore and beach stations at most time intervals. The overall dilution factor of the dye was very high at all stations, indicating that the high wave energy at the dredge material discharge point resulted in a rapid dilution of the discharge plume. This study also notes that dye is a tracer for the movement of water *and not sediment*, and cautions that the results of the dye study should not be used to determine the movement and persistence of fine-grain dredge particles. In addition, Professor Gary Greene from Moss Landing Marine Laboratories finds that the use of fluorescent dye as a tool to determine if fine-grained sediment settles in the nearshore sandy areas is fundamentally flawed, and that the only way to determine if this occurs is to sample bottom sediments (see Exhibit 5). In addition, the Commission's staff biologist has agreed with these criticisms regarding use of dye as a sediment tracer and also states that sediment sampling is the only analysis that will determine if fine-grain dredge sediments adversely impact the beaches or the nearshore subtidal benthic environment. For these reasons, Commission staff is not recommending use of fluorescent dye as part of the monitoring program required for this amendment.

3. Proposed Amendment

The proposed amendment consists of two parts. The first would allow yearly nearshore disposal of 3,000 cubic yards of fine-grain material (consisting of between 50% and 80% sand) dredged from the inner harbor, for the remaining two years of the CDP 3-00-034. Currently CDP 3-00-034 requires that all material disposed into the nearshore environment consist of 80% sand or greater. Requirements for lab testing of the fine-grain dredge material, according to all criteria prescribed by U.S. Army Corps of Engineers (ACOE) and Environmental Protection Agency (EPA) regulations, would remain in place. These criteria include testing for 1) metals; 2) pesticides and PCBs; 3) butylins; 4) organotins; 5) total and water soluble sulfides; 6) total solids/water content; 7) total volatile solids; 8) total organic carbon;



and 9) grain size distribution. Only dredge material that is clean and has been deemed suitable for “unconfined aquatic disposal” by the ACOE and the EPA could be disposed of into the nearshore environment. In addition, per the EPA, the dredge material must consist of at least 50% sand to achieve the basic project purpose of beach nourishment (pers. comm. Brian Ross, EPA).

The second part of the amendment would remove the requirement for chemical testing on entrance channel sediment, which always consists of greater than 90% sand content, prior to dredging and disposal of this material into the nearshore environment, consistent with ACOE and EPA guidelines. Currently, the Coastal Commission is the only agency that requires chemical testing on sandy entrance channel sediments.

B.Coastal Development Permit Determination

1. Land Use Priorities

Coastal-dependent and coastal-related developments are among the highest priority Coastal Act uses.

The Coastal Act defines coastal-dependent and coastal-related as follows:

§ 30101: *"Coastal-dependent development or use" means any development or use which requires a site on, or adjacent to, the sea to be able to function at all.*

§ 30101.3: *"Coastal-related development" means any use that is dependent on a coastal-dependent development or use.*

Coastal Act § 30001.5 states, in part:

The Legislature further finds and declares that the basic goals of the state for the coastal zone are to:

(a) Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources....

(c) Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.

(d) Assure priority for coastal-dependent and coastal-related development over other development on the coast...



Coastal Act Sections 30234, 30234.5 and 30255 also provide:

§ 30234: Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.

§ 30234.5: The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.

§ 30255: Coastal-dependent developments shall have priority over other developments on or near the shoreline. Except as provided elsewhere in this division, coastal-dependent developments shall not be sited in a wetland. When appropriate, coastal-related developments should be accommodated within reasonable proximity to the coastal-dependent uses they support.

The Santa Cruz Small Craft Harbor is one of only six harbors located along the Central Coast, and is the primary recreational port in Monterey Bay. The Santa Cruz Port District maintains approximately 920 berths and dory ties within the Harbor, which are used by a variety of recreational and commercial boats.

Section 30234 of the Coastal Act provides that facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Section 30234.5 states that the economic, commercial, and recreational importance of fishing activities shall be recognized and protected. Commercial and recreational boating and fishing are coastal-dependent priority uses that cannot function without sufficient harbor depths. Hence, the maintenance of adequate berthing and navigational depths in the Harbor is essential and must be considered a high priority under the Coastal Act. The proposed dredging amendment not only supports coastal-dependent uses but also is essential to such uses and therefore has a priority under the Coastal Act. Accordingly, the Commission finds that the proposed amendment project supports high-priority coastal uses that are consistent with the land use priorities of Coastal Act Sections 30001.5, 30234, 30234.5, and 30255.

2. Public Access

Coastal Act § 30604(c) requires that every coastal development permit issued for new development between the nearest public road and the sea “shall include a specific finding that the development is in conformity with the public access and recreation policies of [Coastal Act] Chapter 3.” The proposed project is located seaward of the first through public road.

Coastal Act Sections 30210 through 30214 and 30220 through 30224 specifically protect public access and recreation. In particular:



§ 30210: In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

§ 30211: Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

§ 30212 (a): Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects....

§ 30213: Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.

§ 30214 (a): The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case....

§ 30221: Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

§ 30224: Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, [...] providing harbors of refuge, and by providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.

In addition, **Coastal Act § 30240 (b)** requires that development not interfere with recreational areas:

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

The Santa Cruz Small Craft Harbor provides public access and recreational opportunities of regional and statewide significance. These include boat launching, berthing for commercial vessels and recreational boats, boat repair areas, marine-related retail/commercial businesses, sailing programs, a yacht club, and boat sales. The proposed dredging amendment will strongly benefit public access and recreation by restoring and maintaining adequate water depths in the Harbor's navigation channels and berthing areas. In addition, at least half of the dredge material (at least 1,500 cubic yards) must consist of sand, which may become available for beach replenishment.



Special condition #1a of CDP 3-00-034 authorizes a normal Santa Cruz Harbor dredge disposal operation between November 1 and April 30 of each year (see Exhibit 6, pg. 1). As stated above, in February 2001 CDP 3-00-034-A1 was approved which allowed the Port District to discharge 3,000 cubic yards of fine-grained (42% sand) material into the nearshore environment. That amendment was conditioned such that the disposal occur only during the high-wave energy months of February and/or March 2001, to ensure quick dispersal rates of the fine-grained sediment so as not to affect recreational use at Twin Lakes State Beach. The disposal took place in March 2001, with no resultant negative impacts to the beach. Regarding the current amendment, the EPA is now requiring that the dredge material consist of at least 50% sand to achieve the basic project purpose of beach nourishment. To ensure continued protection of adjacent beaches, amended Special Condition B(1)(b) requires that dredging and disposal of the fine-grained material (at least 50% sand) take place only during the high-wave energy months between November 1st and February 28th. These dates also correspond to inner harbor dredging date restrictions imposed by ACOE and NMFS to protect steelhead. In addition, Special Condition #13a requires submission of a beach and subtidal monitoring program designed to determine if there are any adverse impacts to the adjacent beaches and subtidal benthic areas during and following the discharges. Finally, Special Condition #14 requires the Port District to keep a record of any written comments received regarding its dredging and disposal activities, which will be available to Commission staff upon request.

The project will protect boating and beach recreational opportunities, consistent with Coastal Act Sections 30210, 30213, 30220, 30224, 30234 and 30234.5. Also, all conditions of coastal development permit 3-00-034 that mitigate potential beach access impacts due to dredging and disposal remain in force. In addition, this approval is conditioned to require disposal of fine-grained dredge material during high-wave energy months and to require submission of a sediment monitoring program. Thus, the proposed amendment will preserve public access and recreational opportunities and is therefore consistent with the above-cited public access and recreational policies of the Coastal Act.

3. Marine Resources & Environmentally Sensitive Habitats

a. Beach Replenishment

Coastal Act Section 30233 details the conditions under which dredging may be permitted and states:

§ 30233: (a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following: (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities. (2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps. (3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with



such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland. (4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities. (5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines. (6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas. (7) Restoration purposes. (8) Nature study, aquaculture, or similar resource dependent activities.

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.

The sediments proposed for dredging and disposal will consist of between 50% and 80% sand. This material would not normally qualify as beach nourishment material because it is less than 80% sand. As noted previously, the policy of the ACOE and the EPA is that lacking sound information regarding the impacts of fine-grained material on the aquatic environment, beach replenishment material should be approximately 80% sand or compatible with the receiving beach. The receiving beach at Santa Cruz is over 90% sand.

The Port District contends that the 80% sand guideline is too restrictive and precludes the beneficial use of otherwise clean sediments. According to the applicant, the benefits of this amendment include beach replenishment, and transport of silt and clay to the deeper ocean. The applicant contends that dredging disposal during high-wave energy periods of late fall and winter will mimic the high flows from nearby watersheds that occur during these months. In addition, the applicant contends that the results from the 2001 monitoring program for the demonstration-dredging project show that there were no significant impacts to beaches or nearshore marine benthic habitats. The Port District would like additional opportunities to demonstrate that this material is suitable for nearshore disposal without causing harm to coastal resources or downcoast beaches. The Port District, in fact, feels this disposal may be beneficial to beaches due to the density and fraction of sand that would be available for beach replenishment. At



least 1,500 cubic yards of the 3000 cubic yards of dredge material will be composed of sand.

According to letters from the EPA dated April 26, 2000 and December 15, 2000, the 80% sand standard is a “rule of thumb” guideline to be applied in situations where more detailed information is lacking. However, “it is not the only appropriate ratio.” EPA now states that the demonstration dredging project adequately established that there were no significant impacts from the nearshore disposal of 3,000 cubic yards of fine inner harbor dredge material, and thus is supportive of the proposed amendment (pers. comm. Brian Ross). In addition, the ACOE has indicated that it can re-authorize the disposal of 3,000 cubic yards of fine-grain inner harbor sediment, as was authorized for the demonstration project in 2001 (pers. comm. Clyde Davis). The Regional Water Quality Control Board has also stated that nearshore discharge of 3,000 cubic yards of chemically tested inner harbor material is acceptable (pers. comm. Bill Arkfeld). The Monterey Bay National Marine Sanctuary (MBNMS) has stated it is likely to authorize the disposal of 3,000 cubic yards of fine sediments into the nearshore environment, consistent with an activity that was permitted prior to Sanctuary designation in 1992. Special Condition 8e of CDP 3-00-034 requires evidence of approval from MBNMS for disposal of dredge materials to Sanctuary waters. This condition remains in full force and effect under this amendment.

Special Condition #13a of this amendment requires that a monitoring program be developed to determine if any sedimentary changes occur along the beaches and nearshore benthic habitats in the vicinity of the Santa Cruz Harbor due to retention of fine-grained material. This monitoring program must include collection of sediment samples prior to, during, and after the disposal of dredge material that consists of at least 50% sand but not more than 80% sand.

The Port District is anticipating that the results of this monitoring program will again demonstrate that this predominantly fine-grain dredge material is suitable for nearshore disposal and will not cause harm to coastal resources. It must be noted, however, that any findings of this monitoring program, as well as the monitoring program done for the demonstration project, are relevant to the specific amounts and composition of dredge materials of each disposal event and are not necessarily applicable to the dredging and disposal of sediment of differing volumes and compositions.

In conclusion, the dredging and disposal of 3,000 cubic yards of sediment composed of between 50% and 80% sand into the offshore pipeline during the high-wave energy periods of late fall and winter should not have a negative impact on sand composition at Twin Lakes State Beach, given the natural oceanographic conditions during these months. Also, at least 1,500 cubic yards of sand may become available for beach replenishment. In addition, Special Condition #13a requires that a monitoring program be developed to include sediment sampling and analysis of grain size before, during, and after the proposed dredging events, yielding additional important information regarding the sediment dynamics at this particular location. Special condition #13b requires that the final monitoring report be submitted to the Executive Director for review. As conditioned, the proposed amendment is consistent with the dredging and beach replenishment priorities of Coastal Act Section 30233.



b. Biological Resources

§ 30230: *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

§ 30231: *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

The Santa Cruz Small Craft Harbor is connected to the Monterey Bay National Marine Sanctuary (MBNMS). The MBNMS includes many of the most valuable marine resources within the Central Coast area and encompasses over 5,300 square miles of protected marine waters and includes a diverse complex of marine habitats including deep sea, open ocean, kelp forests, sandy beaches, rocky seashore, estuaries and sloughs. These habitats support a variety of marine life including more than 345 species of fish, 94 species of seabirds, 26 species of marine mammals, 450 species of algae and one of the world's most diverse invertebrate populations.

Beginning in 1962, the Santa Cruz Small Craft Harbor was developed in a coastal estuary known formerly as Woods Lagoon that formed at the base of the Arana Gulch watershed. Water originating from the Arana Gulch watershed drains into the Harbor through four 72-inch culverts that extend beneath the inner harbor parking area. Except for the coastal salt marsh and brackish marsh habitat areas of Arana Gulch to the north, the Harbor is now essentially a manmade environment that is devoid of the natural estuarine habitat that once prevailed. Open waters of the Harbor are surrounded, from the east and west jetties at the Harbor mouth to the north harbor dry boat storage yard, entirely by urban development. Thus, for the most part, the tidal waters of the Harbor are an enclave that is surrounded by urban harbor development consisting of floating docks, riprap, roads and parking lots, boats, and various buildings. Nonetheless, some marine mammals, fish and seabirds make use of the urban aquatic and terrestrial environments provided in the Harbor.

Generally, the greatest potential for adverse environmental effects from dredged material discharge lies in the benthic environment. In this case, the subject benthic environment includes ocean bottom flora and fauna of the inner harbor area and also the sandy subtidal and intertidal areas off Twin Lakes State Beach. Under the proposed project, dredge material would be pumped into the offshore approximately 70 yards offshore at Twin Lakes State Beach (Exhibit 3).

Sediment deposition can smother invertebrates and prevent algal spore settlement. In 2001, scientists



from Moss Landing Marine Laboratories (MLML) conducted a review of the benthic habitat in the vicinity of the proposed dredge disposal. This review included four research dives to examine habitat, substrate conditions, and species present. The results of this review indicate that during the fall and winter when natural sand deposition is greatest, algae were less present. Fine-grain materials could have impacts on certain benthic communities. In addition, from February 18 to April 14, 2001 scientists from MLML conducted a monitoring program to determine if sedimentary changes occurred in the beaches and nearshore benthic habitats as a result of the demonstration-dredging project. As stated above, the results showed that there was no significant impact to beaches or nearshore marine benthic habitats.

Impacts to biological resources are anticipated to be the same as those associated with previously permitted annual dredge episodes. The primary impact to biologic resources resulting from dredging occurs through the disturbance, transport, and destruction of benthic organisms on and in the material to be dredged. However, re-colonization by these organisms would occur over time. While, dredge material disposal may induce turbidity and cause stress on planktonic larvae and filter feeder organisms (e.g., worms and shellfish), such stress would be temporary.

The removal of sediment from dredge areas could have short-term, adverse impacts on fish and fish habitats by temporarily increasing the total suspended sediments in the water column and possibly decreasing dissolved oxygen levels during dredge operations. However, as proposed, dredging will be conducted using a hydraulic dredge, which removes and transports dredged material as liquid slurry, thereby minimizing disturbance and re-suspension of sediments at the dredge site. This will minimize adverse environmental impacts to marine and wildlife habitats and water circulation during dredging, consistent with Coastal Act requirements.

Several endangered or threatened species are found in the Harbor area or just offshore. According to correspondence from the California Department of Fish and Game, the state and federally listed California brown pelican has been documented at the offshore disposal site. The underwater disposal of dredge material is not expected to create excessive vibration, noise, or surface turbulence that would affect birds in the area.

Steelhead trout (*Oncorhynchus mykiss*) is a federally and state listed threatened species. Arana Gulch has supported steelhead passage. National Marine Fisheries Service (NMFS) allows dredging in the inner harbor from November 1st through February 28th, but prohibits dredging in the inner harbor in the months of March and April to protect steelhead. This amendment is conditioned to require equivalent time restrictions regarding dredging in the inner harbor.

The tidewater goby (*Eucyclogobius newberryi*) is a federally listed endangered species and is state listed as a species of special concern. Tidewater gobies were known to occur in Woods Lagoon in 1984, but there have been no recent sightings. Past sampling and existing conditions in Arana Gulch indicate that the tidewater goby no longer inhabits Arana Gulch and that habitat for the species is lacking. The inner harbor salinity level is in excess of what could support the tidewater goby.

In summary, the disposal of a relatively small amount (3,000 cubic yards) of fine-grain material into the surfline during the late fall and/or winter months should have little or no discernible effect on benthic



organisms, fish, planktonic larvae, or filter-feeding organisms. In addition, the activities permitted under the proposed amendment should not create any disturbance that would have an adverse effect on the California brown pelican. Also, the amendment is conditioned to limit dredging during the months when steelhead trout are present in the Harbor area, and the tidewater goby appears to no longer inhabit the Arana Gulch area. Thus, the proposed project is consistent with Sections 30230 and 30231 of the Coastal Act regarding protection of species of special importance and maintenance of the biological productivity of coastal waters.

4. Water Quality

Coastal Act Sections 30231 and 30232 state:

§ 30231: The biological productivity and the quality of coastal waters, [...] appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, ...

§ 30232: Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

Anticipated water quality impacts of dredging and disposal occur through variables such as dissolved oxygen (DO), pH, salinity, total suspended solids (TSS), and turbidity. Turbidity near the dredging and disposal sites would increase because of additional TSS in the water column. DO levels in the water column would decrease during disposal events due to increased turbidity. Long-term changes in turbidity and dissolved oxygen can have an adverse effect on kelp beds. Kelp beds are found in the offshore disposal area. Although increased turbidity and decreased dissolved oxygen levels are expected to occur as a result of dredge disposal, the pre-dredge-operation ambient water quality condition should return shortly after each dredging episode. This is supported by the findings of the Moss Landing Marine Laboratories study on the impacts of the demonstration-dredging project in 2001. A strong turbidity signature was not identified in the water samples taken during the demonstrating dredging event, nor was any odor or discoloration observed. In fact, the level of turbidity was found to be higher in water samples collected the day before the demonstration-dredging event began, due to intense rainstorms and flooding at that time. The highest turbidity values were located near the areas where runoff continued to occur by the mouth of the San Lorenzo River and Schwann Lagoon. Given these findings, the proposed dredge disposal should not be of significant magnitude or length to cause any adverse effects to local kelp beds.

Special Conditions B(1)(c) and B(1)(d) of coastal development permit 3-00-034 require that all dredge materials be tested according to the most current ACOE and EPA testing methods and procedures and that all dredge materials shall meet RWQCB and EPA Clean Water Act beach disposal standards. These conditions remain in full force and effect under this amendment. All inner harbor dredge material will



require physical and chemical testing. Only dredge material that is deemed suitable for aquatic disposal may be disposed of into the nearshore environment.

The proposed amendment also calls for the removal of the yearly requirement for chemical and physical testing on the sandy entrance channel sediment. Currently, the Commission is the only agency that requires this testing. In general, contaminants adhere to fine-grained material and not to sand. Historically, the entrance channel sediment has always consisted of greater than 90% sand and has never shown signs of contamination. The ACOE and EPA do not require regular chemical testing on the entrance channel sediment and only require periodic physical (grain size) testing on this sediment. Thus, Special Condition B(8)(b) is amended to require that dredge material analysis for entrance channel sediment be done consistent with the requirements of the ACOE and EPA. Chemical and physical testing will continue to be required for all dredge material in the inner harbor.

In summary, the proposed dredging and disposal demonstration project is expected to have short-term adverse impacts on water quality, including a temporary increase in turbidity and a decrease in dissolved oxygen levels. However, these impacts should be minor in magnitude and scope and pre-dredge water conditions should recur shortly after each dredging and disposal episode. The removal of the requirement of chemical testing for entrance channel sediment is consistent with maintenance of water quality because this sediment has historically had a high sand content (greater than 90%) and contaminants do not adhere to sandy material. All remaining conditions of coastal development permit 3-00-034 regarding water quality remain in force. As conditioned, the proposed amendment is consistent with Coastal Act Sections 30231 and 30232 regarding the maintenance of marine water quality.

IV. California Environmental Quality Act (CEQA)

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of CEQA. Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment. The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA. This staff report has discussed the relevant coastal resource issues with the proposal, and has recommended appropriate mitigations to address adverse impacts to said resources. Accordingly, the project is being approved subject to conditions that implement the mitigating actions required of the Applicant by the Commission (see Special Conditions). As such, the Commission finds that only as modified and conditioned by this permit will the proposed project not have any significant adverse effects on the environment within the meaning of CEQA.

